Pesticide Safety Information Series A

Worker Health and Safety Branch

A-1 SAFETY REQUIREMENTS FOR PESTICIDE HANDLERS

In Agricultural Settings

This leaflet explains pesticide safety requirements and guidelines for pesticide handlers in the agricultural setting. The term "handle" refers to any activity related to the application of pesticides. Handle includes mixing, loading, applying, repairing or cleaning contaminated equipment, and handling unrinsed containers.

Hazards of Pesticides:

Before a pesticide is sold, many tests are conducted to determine the possible health and environmental hazards. Pesticides (and other chemicals) can be absorbed through your skin and into your body to cause illness. Hand exposure contributes significantly to the overall hazard of handling pesticides. Protecting the skin is often the most difficult problem associated with pesticide use.

Labeling and Regulations:

Federal laws require specific precautions on pesticide labels to protect your health. In addition, every label must display a signal word that gives an indication of the acute health hazard. The signal words are as follows:

- "Danger" indicates the pesticide is extremely toxic
- "Warning" indicates moderate toxicity
- "Caution" indicates low toxicity.

Federal and State laws require that pesticides be used according to the requirements on the label. Additionally, the State establishes its own regulations. In some cases, State regulations are more strict than Federal laws; this protects you in use conditions specific to California. You must follow both pesticide labels and State regulations. In case of a conflict, follow the more strict requirement.

Interpretation of Label Safety Precautions:

Interpret the safety precautions on the label carefully. Take into account the signal word and the application situation. If the label says to avoid breathing spray mist, you should wear a respirator for protection from inhalation hazards. Hazardous conditions may occur in open areas if there is no wind and a temperature inversion occurs. The lack of air movement and higher temperatures create a potentially hazardous situation. On the other hand, too much wind creates a strong potential for drift onto people and nontarget crops. Assess the whole situation prior to handling any pesticide.

Use of engineering controls, such as closed systems and enclosed cabs, are always preferred over the use of personal protective equipment (PPE), such as a respirator, rainsuit, etc. In many situations, when engineering controls are used, handlers can wear less PPE. Substitutions allowed when using engineering controls are found in Pesticide Safety Information Series (PSIS) A-3, Table 1.

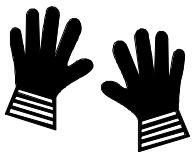
Hand pouring and moving (transporting) pesticide concentrates present the greatest hazard to the people involved. After a pesticide is mixed and loaded into the application equipment to be applied as a dilute liquid spray, the hazards decrease a little. However, even when handling the dilute solution, you should always try to avoid getting wet with the spray, regardless of the signal word on the label.

Specific Safety Precautions to Follow:

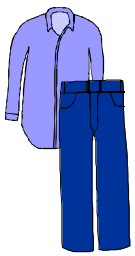
- Eye protection is required for most activities involving mixing/loading, application, equipment maintenance and flagging. There are exemptions for injection or incorporation of pesticides in the soil, having spray nozzles below the applicator and pointed downward, working in an enclosed cab, some applications of vertebrate baits or solid fumigants and applying non-insecticidal lures.

- Protective eyewear includes goggles, safety glasses (with brow and temple protection), a face shield, or full face mask (part of respiratory protection). Pilots can use a visor for eye protection. Regular eyeglasses and sunglasses DO NOT provide adequate eye protection.
- Employees involved in mixing and loading pesticides, pesticide equipment maintenance and hand application (including hand-held equipment) of pesticides must be provided with and use gloves.

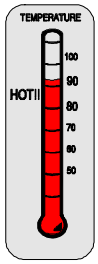
- Your employer must provide clean or new gloves each day.
- If the label does not list the type of glove needed, you must use gloves made of rubber, neoprene or other chemical-resistant material.



- In rare cases when the label specifically states that the handler not use gloves, they must not be worn.
- Wear respiratory protection when using pesticides that are toxic when inhaled, such as fumigants, powders, dusts, and some liquids.
- The type of respiratory protection required will be on the pesticide label.
- Your employer must have a written procedure for selecting, fitting, cleaning, sanitizing and maintaining respiratory equipment. See PSIS A-5 for additional information on respiratory protection.
- Some medical conditions, such as heart and lung disease, may prevent you from using respiratory protection. If you have these conditions, a physician must examine you prior to using respirators.
- Respiratory protection is also required for most handling activities involving pesticides on the Minimal Exposure Pesticide list (some exemptions exist). PSIS A-10 contains more information on Minimal Exposure Pesticides.
- A closed system is required to be used by all employees mixing/loading liquid pesticides or liquid mixes made from dry pesticides with the signal word "DANGER" on the label. See PSIS A-3 for more information on closed systems.
- If you handle pesticides with the signal word "DANGER" or "WARNING" on the label, your employer must provide you with clean coveralls (a one- or two-piece garment with long-sleeves and long pants) every day these pesticides are used. (This does not apply to those who handle fumigants, unless the label specifically requires use of coveralls.)



- If the pesticide label or California regulations require the use of chemical-resistant protection, your employer must provide a clean chemical-resistant suit, apron (if specified), footwear and headgear, that covers the body, feet and head.
- Due to the high temperatures that often exist in California, heat stress from use of chemical resistant clothing may present a greater hazard than pesticide exposure. In the absence of engineering controls, such as air-conditioned cabs, applications should be made at night or during the cooler portions of the day.
- If required to use a chemical resistant suit, you must not work in temperatures above 80°F in daylight hours or 85° during nighttime hours, unless wearing a cooled suit. Some exemptions from the chemical resistant clothing requirements exist for handlers (see PSIS A-3).



- Your employer must provide a place to change clothes and wash at the end of the day.
- Your employer must provide adequate water, soap and towels for washing your hands and face. They also must supply water for emergency eye flushing and washing the entire body in case of an accident.

Training:

California regulations require employees to be adequately trained before they handle pesticides. Your employer must have a written training program for employees who handle pesticides. For each pesticide or chemical group of pesticides, your training must include:

- the meaning of precautionary statements on the pesticide label
- information on the immediate and long-term hazards of the pesticides to be used
- routes pesticides can enter the body
- signs and symptoms of poisoning
- emergency first aid
- how to obtain emergency medical care
- routine and emergency decontamination procedures
- need for, limitations, use and cleaning of PPE
- prevention, symptoms and first aid for heat-related illness
- safety requirements and procedures
- environmental concerns
- instructions not to take pesticides or containers home
- applicable regulations, Material Safety Data Sheets, and PSIS leaflets
- the purpose of medical supervision, if applicable
- location of the written Hazard Communication Information (PSIS A-8)
- the employee's rights.

This leaflet assists readers in understanding pesticide regulations. It is not a legal document. The legal reference is found in the California Code of Regulations, Title 3. The words "must" and "should" as used in the text are not the same. The word "must" means the action is required and comes from California regulations. The word "should" means additional handling practices that are recommended to reduce exposure.